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09/801,201	03/07/2001	John L. Lautzenhiser	212-02US:0103	4024
45920 7590 08/06/2007 WENDELL E. MILLER, PATENT AGENT 1506 TIPPECANOE DRIVE, D-1 WARSAW, IN 46580			EXAMINER AU, SCOTT D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/801,201

Applicant(s)

LAUTZENHISER ET AL.

Examiner

Scott Au

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 9-17, 19, 31-52, 62, 63 and 74-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36-49 and 76-80 is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-16, 31-35, 50-52, 62, 63, 74, 75 and 81-95 is/are rejected.
- 7) ☒ Claim(s) 17 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

The application of Lautzenhiser et al. for a "Rate-of-change switches and controllable apparatus" filed March 7, 2001 has been examined.

Claims 1-5, 9-17, 19, 31-52, 62-63, and 74-95 are pending.

Claims 6-8, 18, 20-30, 53-61, and 64-73 are canceled.

Claims 74-95 are new.

Claim Objections

Claims 1 and 4 are **objected to because of the following informalities**: "a differentiator connected to said output signal" is written incorrectly. Examiner treats as "a differentiator received to said output signal". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Muller (US# 4,865,610).

Referring to claim 1, Muller discloses a switch (27) (i.e. mouthpiece) which comprises: a transducer (28) (i.e. transducer) that produces an output signal in response to a user input (i.e. see Abstract); a differentiator (67) (i.e. microprocessor) received to said output signal; and means (71) (i.e. microcomputer), connected to said differentiator, for performing a first switching function (col. 1 lines 23-38, col. 2 lines 58-68, col. 5 lines 6-69, and col. 6 lines 57-68).

Referring to claim 2, Muller discloses a switch of claim 1, in which said transducer comprises a transducer that produces an output signal proportional to said input (col. 3 lines 57-68).

Referring to claim 3, Muller discloses a switch of claim 1, in which said transducer comprises a transducer that produces an output signal proportional to a tilting input (col. 3 lines 57-68).

Referring to claim 62, Muller discloses a switch comprises:
a mechanical-to-electrical transducer (28) (i.e. transducer); a differentiator (67) (i.e. microprocessor) connected to said transducer (28) (i.e. transducer); and a comparator connected to said differentiator (col. 1 lines 23-38, col. 2 lines 58-68, col. 5 lines 6-69, and col. 6 lines 57-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (US# 4,865,610).

Referring to claim 4, Muller discloses a switch, to the extent as claimed with respect to claim 1 above. However, Muller did not explicitly disclose a second differentiator connected to said first differentiator. Muller discloses a microprocessor (67) connected to input transducers (44,45) (col. 6 lines 5-16) for processing the input signals of the y and x directions.

One skilled in the art recognizes having two differentiators or having one differentiator (67) (i.e. microprocessor) would produce the same end result. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made that having one differentiator of Muller or two differentiators as claimed would have the same functionality and same end result of controlling different electronic appliances base on the y and x direction signals.

Referring to claim 5, Muller discloses a switch of claim 4, which further comprises means, connected to said first differentiator, for performing a second switching function (col. 6 lines 57-68).

Claims 9-16, 31-35, 50-52, 63, 74-75, 81-82, and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (US# 4,865,610) in view of Roby et al. (US# 5,691,703).

Referring to claim 9, Muller teaches a method which comprises producing an output signal in response to a user input (col. 5 lines 29-68); evaluating and performing a first switching function in response to said differentiated output signal (col. 6 lines 5-68). However, Muller did not explicitly disclose the step of differentiating the output signal with respect to time.

In the same field of endeavor of electronic control system, Roby et al. teach the step of differentiating the output signal with respect to time (col. 15 lines 18-38; see Fig. 21) in order to determine the alarm function.

One ordinary skill in the art understands that the step of differentiating the output signal with respect to time of Roby et al. is desirable in the control system of Muller because Muller teaches processing Y and X signals of transducers 44,45 (col. 6 lines 5-16) and Roby et al. teach differentiating the signal respect to time (col. 15 lines 5-16). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include differentiating the signal respect to time of Roby et al. into processing signals step of Muller with the motivation for doing so would carry out the desire alarm function.

Referring to claim 10, Muller in view of Roby et al. disclose the method of claim 9, Muller discloses further a) attaching a transducer to a person; and b) body-member actuating said transducer (i.e. see Figures 1-3).

Referring to claim 11, Muller in view of Roby et al. disclose the method of claim 9, Muller discloses further a) said method further comprises differentiating said signal a second time; and b) said performing step comprises performing said first switching function in response to said second differentiating step (col. 6 lines 5-20).

Referring to claim 12, Muller in view of Roby et al. disclose the method of claim 9, Muller discloses further a) said differentiating step comprises differentiating said output a second time; and b) said method further comprises performing a second switching function in response to said second differentiating step (col. 6 lines 5-20).

Referring to claim 13, Muller in view of Roby et al. disclose the method of claim 9, Roby et al. disclose which said method further comprises: a) performing said first switching function when said output signal is increasing; and b) performing a second switching function when said output signal is decreasing (col. 15 lines 18-38).

Referring to claim 14, Muller in view of Roby et al. disclose the method of claim 9, Roby et al. disclose which said method further comprises: a) performing said first switching function when said output signal is increasing; b) performing a second switching function when said output signal is decreasing; and c) producing a logic output as a function of both of said switching functions (col. 15 lines 18-38).

Referring to claim 15, Muller discloses a method which comprises: body-member tilting a first tilt-sensitive transducer; producing a first output signal proportional to said tilting step; and evaluating and performing a first switching function in response to said differentiated output signal (col. 6 lines 5-68). However, Muller did not explicitly disclose the step of differentiating the output signal with respect to time.

In the same field of endeavor of electronic control system, Roby et al. teach the step of differentiating the output signal with respect to time (col. 15 lines 18-38; see Fig. 21) in order to determine the alarm function.

It would have been obvious to provide the step of differentiating the output signal with respect to time for the same reason with respect to claim 9 above.

Referring to claim 16, Muller in view of Roby et al. disclose the method of claim 15, Muller discloses the body member tilting in the X and Y coordinates to perform a logic output function (col. 6 lines 5-68) and Roby et al. disclose the step of differentiating the output signal with respect to time (col. 15 lines 18-38; see Fig. 21). Therefore, Muller in view of Roby et al. disclose the method of claim 16.

Referring to claim 31, Muller discloses a method comprises: body-member actuating a transducer; producing an output signal proportional to said body-member actuating step (col. 6 lines 5-68). However, Muller did not explicitly disclose performing a switch function in response to a rate-of-change of said output signal.

In the same field of endeavor of electronic control system, Roby et al. teach the step of performing a switch function in response to a rate-of-change of said output signal (col. 15 lines 18-38; see Fig. 21) in order to determine the alarm function.

It would have been obvious to provide the step of differentiating the output signal with respect to time for the same reason with respect to claim 9 above.

Referring to claim 32, Muller in view of Roby et al. disclose the method of claim 31, Roby et al. disclose further a) said producing step comprises producing an output signal that increases and decreases; and b) said performing step comprises performing said switching function whenever said rate-of-change of said increasing output signal reaches a predetermined magnitude (col. 15 lines 18-38; see Fig. 21).

Referring to claim 33, Muller in view of Roby et al. disclose the method of claim 31, Roby et al. disclose further a) said producing step comprises producing an output signal that increases and decreases; and b) said performing step comprises performing said switching function whenever said rate-of-change of said decreasing output signal reaches a predetermined magnitude (col. 15 lines 18-38; see Fig. 21).

Referring to claim 34, Muller in view of Roby et al. disclose the method of claim 31, Muller discloses said method further comprises controlling an apparatus in response to said output signal (i.e. see Abstract).

Referring to claim 35, Muller in view of Roby et al. disclose the method of claim 31, Muller discloses said method further comprises activating control of any apparatus in response to said switching function (i.e. see Abstract).

Referring to claims 50-51, Muller in view of Roby et al. disclose the method in claims 15 and 16, claims 50-51 equivalent to that the combine of claims 15 and 16 addressed above, incorporated herein. Therefore, claims 50-51 are **rejected for the same reasons given** with respect to claims 15 and 16 combined.

Referring to claim 52, Muller in view of Roby et al. disclose the method in claims 50, Roby et al. disclose in which: a) said body-member producing step comprises producing output signals that change in both increasing and decreasing directions; and b) said controlling step further comprises controlling said switching function in response to a rate-of-change of one of said output signals that exceeds a predetermined magnitude when said one output signal is changing in a selected one of said directions (col. 15 lines 18-38; see Fig. 21).

Referring to claim 63, Muller in view of Roby et al. disclose a switch drafted in analogy to the method in claims 31-33, claim 63 equivalent to that the combine of claims 31-33 addressed above, incorporated herein. Therefore, claim 63 is **rejected for the same reasons given** with respect to claims 31-33 combined.

Referring to claims 74-75, Muller in view of Roby et al. disclose the switch of claim 63, Muller discloses the output signals according to the X and Y directions (col. 3 lines 55-68) and Roby disclose the differentiation the rate of change of the output signal

(col. 15 lines 18-37) to carry an alarm function. Therefore, it is obvious the combined of Muller in view of Roby disclose the limitations of claims 74-75.

Referring to claim 81, Muller discloses a method which comprises: a) producing an output signal that is a function of an input; b) controlling an apparatus in response to said output signal; and performing a switching function in response to said out signal (col. 6 lines 5-68). However, Muller did not explicitly disclose performing a switch function in response to a rate-of-change of said output signal.

In the same field of endeavor of electronic control system, Roby et al. teach the step of performing a switch function in response to a rate-of-change of said output signal (col. 15 lines 18-38; see Fig. 21) in order to determine the alarm function.

It would have been obvious to provide the step of differentiating the output signal with respect to time for the same reason with respect to claim 31 above.

Referring to claim 82, Muller in view of Roby et al. disclose a method of claim 81, Muller discloses in which said producing step comprises body-member actuating said input (col. 6 lines 5-68; see Figs. 1-3).

Referring to claim 84, Muller in view of Roby et al. disclose a method of claim 81, Roby et al. disclose in which said performing step comprises differentiating said output signal (col. 15 lines 18-38; see Fig. 21).

Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (US# 4,865,610) in view of Roby et al. (US# 5,691,703) as applied to claim 81 above, and further in view of Lautzenhiser et al. (US# 5,012,165).

Referring to claim 83, Muller in view of Roby et al. disclose the method of claim 81. However, Muller in view of Roby et al. did not explicitly disclose in which said performing step further comprises selectively adjusting said predetermined rate-of-change of said output signal.

In the same field of endeavor of handicap device, Lautzenhiser et al. teach performing step further comprises selectively adjusting said predetermined rate-of-change of said output signal (col. 13 lines 46-54 and col. 20 lines 30-34).

One ordinary skill in the art understands that performing step further comprises selectively adjusting said predetermined rate-of-change of said output signal of Lautzenhiser et al. is desirable in the electronic device for handicaps of Muller in view of Roby et al. because both Muller and Lautzenhiser et al. teach the analogous of operative devices for handicaps. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include performing step further comprises selectively adjusting said predetermined rate-of-change of said output signal of Lautzenhiser into Muller in view of Roby et al. with the motivation for doing so would control the amount of power supplied to the motors.

Claims 85-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (US# 4,865,610) in view of Lautzenhiser et al. (US# 5,012,165).

Referring to claim 85, Muller discloses a method which comprises:

a) performing a body-member gesture (i.e. see Figures 1-3); b) controlling an output signal in response to said body-member gesture (i.e. see Abstract); c) maintaining a switch output status irrespective of said body-member gesture (col. 1 lines 23-38, col. 2 lines 58-68, col. 5 lines 6-69, and col. 6 lines 57-68). However, Muller did not explicitly disclose the method of d) changing said switch output status in response to a predetermined velocity of said performing step.

In the same field of endeavor of handicap device, Lautzenhiser et al. teach d) changing said switch output status in response to a predetermined velocity of said performing step (col. 13 lines 46-54 and col. 20 lines 30-34).

It would have been obvious to provide the step of changing said switch output status in response to a predetermined velocity of said performing step for the same reason with respect to claim 83 above.

Referring to claim 86, Muller in view of Lautzenhiser et al. disclose the method of claim 85, Muller discloses said method further comprises controlling an apparatus in response to said body-member gesture (i.e. see Abstract).

Referring to claim 87, Muller in view of Lautzenhiser et al. disclose the method of claim 85, Lautzenhiser et al. disclose said method further comprises selectively

adjusting said predetermined velocity of said performing step (col. 13 lines 46-54 and col. 20 lines 30-34).

Referring to claim 88, Muller in view of Lautzenhiser et al. disclose the method of claim 85, Muller discloses said method further comprises selectively adjusting said predetermined velocity of said performing step (col. 6 lines 5-16).

Claim 89-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (US# 4,865,610) in view of Roby et al. (US# 5,691,703) and further in view of Lautzenhiser et al. (US# 5,012,165).

Referring to claim 89, Muller discloses a method, to the extent as claimed with respect to claim 85 above. However, Muller did not explicitly disclose the step of changing said switch output status in response to a predetermined rate-of-change of said output signal.

In the same field of endeavor of controlling system, Roby et al. teach the step of performing a switch function in response to a rate-of-change of said output signal (col. 15 lines 18-38; see Fig. 21) and Lautzenhiser et al. teach performing step further comprises selectively adjusting said predetermined rate- of-change of said output signal (col. 13 lines 46-54 and col. 20 lines 30-34).

It would have been obvious to the step of changing said switch output status in response to a predetermined rate-of-change of said output signal for the same reason with respect to combined of claims 81 and 83 above.

Referring to claim 90, Muller in view of Roby et al. and Lauzenhiser et al. disclose the method of claim 89, Muller discloses said method further comprises initiating control of an apparatus in response to said output signal (i.e. see Abstract).

Referring to claim 91, Muller in view of Roby et al. and Lauzenhiser et al. disclose the method of claim 89, Muller discloses in which said method further comprises controlling an apparatus in response to said output signal (i.e. see Abstract).

Referring to claim 92, Muller in view of Roby et al. and Lauzenhiser et al. disclose the method of claim 89. Roby et al. teach the output of detector 1 is input to a differentiator which calculates a rate of change of the output signal over time (col. 15 lines 18-21) and Lauzenhiser et al. teach a changing limiting means 223 for limiting the rate of change in the difference in power that can be supplied to one motor 26a or 26b (13 lines 48-52). It is obvious the combined of Roby in view of Lauzenhiser et al. disclose in which: a) said performing step comprises increasing and decreasing said output signal; and b) said changing step comprises changing said switch output status in response to said increasing output signal.

Referring to claim 93, Muller in view of Roby et al. and Lauzenhiser et al. disclose the method of claim 89. Roby et al. teach the output of detector 1 is input to a

differentiator which calculates a rate of change of the output signal over time (col. 15 lines 18-21) and Lauzenhiser et al. teach a changing limiting means 223 for limiting the rate of change in the difference in power that can be supplied to one motor 26a or 26b (13 lines 48-52). It is obvious the combined of Roby in view of Lauzenhiser et al. disclose in which: a) said performing step comprises increasing and decreasing said output signal; and b) said changing step comprises changing said switch output status in response to said decreasing output signal.

Referring to claim 94, Muller in view of Roby et al. and Lauzenhiser et al. disclose the method of claim 89. Roby et al. teach the output of detector 1 is input to a differentiator which calculates a rate of change of the output signal over time (col. 15 lines 18-21) and Lauzenhiser et al. teach a changing limiting means 223 for limiting the rate of change in the difference in power that can be supplied to one motor 26a or 26b (13 lines 48-52). It is obvious the combined of Roby in view of Lauzenhiser et al. disclose in which: a) said performing step comprises producing increasing and decreasing output signals; b) said changing step comprises changing said switch output status in response to said increasing output signal; and c) said method further comprises performing an other switching function in response to said decreasing output signal.

Referring to claim 95, Muller in view of Roby et al. and Lauzenhiser et al. disclose the method of claim 89. Roby et al. teach the output of detector 1 is input to a differentiator which calculates a rate of change of the output signal over time (col. 15 lines 18-21) and Lauzenhiser et al. teach a changing limiting means 223 for limiting the

rate of change in the difference in power that can be supplied to one motor 26a or 26b (13 lines 48-52). It is obvious the combined of Roby in view of Lauzenhiser et al. disclose in which said changing step comprises differentiating said output signal.

Claim Objections

Claims 17 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claims 17 and 19, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that "refraining from said momentary-contact switching step during a second time delay that follows said window of opportunity".

Allowable Subject Matter

Claims 36-49,76-80 are allowed.

Referring to claim 76, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that "preventing variations in said output signal from performing said switching function".

Regarding claims 36-49 and 77-80 are allowed because the claims are dependent upon claim 76.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Crosbie et al. (US# 4,243,024) disclose a G-protection system sensing a change in acceleration and tilt angle.

Heinzmann (US# 6,837,327) disclose a controlled balancing toy.

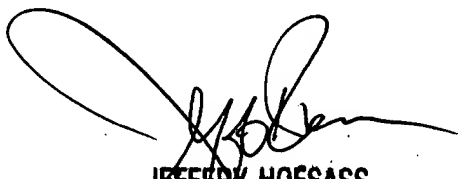
Goldhammer et al. (US# 4,709,197) disclose a control device for driving E.G. a shredding machine or a similar machine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Au whose telephone number is (571) 272-3063. The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached at (571) 272-2981. The fax phone numbers for the organization where this application or proceeding is assigned are (571)-272-1817.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-3050.

Scott Au
Examiner
Art Unit 2612



JEFFREY HOFSSASS
SUPERVISORY PATENT EXAMINER
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